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Abstract of the Invention

A method is provided for co-modelling and analyzing a packet network operating over an optical network. The method includes co-modelling the packet
5 network and the optical network by generating a basic packet capacity based on a simulated packet network comprising packet network topology information and packet traffic information and generating a basic optical capacity based on
10 a simulated packet transport network comprising optical network topology information and the basic packet capacity. The output of the co-modelled network is then used to perform analysis on the simulated packet transport network. For example, embodiments of the present invention provide methods of survivability analysis for providing packet link
15 protection in either the packet network or the optical network of the simulated packet transport network.